

Classifications

EN ISO 14171-A

S 46 6 FB S3Si H4

AWS A5.17 / SFA-5.17

F7A8-EH12K-H4 / F7P8-EH12K-H4

Characteristics and typical fields of application

Union S 3 Si - UV 422 TT-LH is a wire flux combination for submerged arc welding of unalloyed steel grades up to a minimum specified yield strength of 460 MPa. Especially recommended to be used for multi-pass butt welding with very low hydrogen level. Very good impact toughness. Suitable for single wire, twin-arc and tandem welding configurations. Very good slag detachability also for narrow gap welding preparations.

UV 422 TT-LH is an agglomerated fluoride-basic flux with high basicity, neutral metallurgical behavior and very low level of diffusible hydrogen. For information regarding this welding flux see our detailed data sheet.

Base materials

General purpose structural steels and fine grained structural steels up to 460 MPa min. yield strength.

S235JR-S355JR, S235JO-S355JO, S235J2-S355J2, S235J2G3- S355J2G3, GE200- GE260, S275M-S460M, S255N-S380N, S255NL-S460NL, P275NL1- P460NL1, P235GH- P355GH, L210- L415NB

ASTM A36 Gr. all; A 106 Gr. all, A214; A 242; A266 Gr. 1, 2, 4; A285; A299; A328; A366; A515 Gr. all; A516 Gr. all; A570 Gr. 30 – 45; A572 Gr. 42, 50; A606 Gr. all; A656 Gr. 50, 60; A668 Gr. A, B; A907 Gr. 30, 33, 36, 40; A841; A851 Gr. 1, 2; A935 Gr.45; A936 Gr. 50; API 5L X42 – X60

Typical analysis

wt.-%	C	Si	Mn
wire	0.10	0.30	1.65
all-weld metal	0.08	0.45	1.55

Mechanical properties of all-weld metal - typical values (min. values)

Condition	Yield strength R_e	Tensile strength R_m	Elongation A ($L_0=5d_0$)	Impact energy ISO-V KV J		
	MPa	MPa	%	-60°C	-40°C	-20°C
u, DC+	485 (≥460)	585 (530-650)	28 (≥25)	110 (≥47)	140 (≥70)	165 (≥47)
a1, DC+	435 (≥420)	550 (520-630)	30 (≥25)	120 (≥80)		150 (≥80)
a2, DC+	375	510	31 (≥25)	135 (≥80)	-	165 (≥80)

u untreated, as welded ; a1 = 1 hour 620 °C ; a2 = 16 hours 620 °C

Operating data

	Polarity	DC +	Dimension mm	
				2.0
				2.5
				3.0
				3.2
				4.0
				4.8

Preheating and Interpass temperature: 180 – 220 °C

Heat Input < 2,0 kJ/mm

Approvals

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